

Applicants : ZHANG, et al.  
U.S. Serial No.: 09/839,078  
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when the deadline falls on a Saturday, Sunday or a federal holiday, this amendment is being timely filed.

Please amend the claim as follows:

In the claim:

--1. (Twice Amended) [For use in forming a], A floor assembly comprising a plurality of flooring strips, wherein a flooring strip comprising:

a first layer including a first plurality of elongate members that are secured together, each of the first plurality of elongate members having a grain extending generally in a longitudinal direction of the flooring strip; and

a second layer secured to one face of the first layer, the second layer including a second plurality of spaced members each having a grain extending generally transversely to the longitudinal direction of the flooring strip.--

REMARK

Claims 1-12 are pending in the Application. By this Amendment, Applicants have amended claim1. The Amended claim 1 does not have any new matters and Applicants respectfully request the entry of this Amendment. The Examiner to whom the application has been assigned has rejected Claims 1-12.

Claim Rejections - 35 USC § 102

The Examiner states that Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Penland.

In response, Applicants respectfully traverse this ground of rejection. To constitute an anticipation, each and every element of the claim must be disclosed in that one reference. Orthokinetics, Inc. v. Saftety Travel Chairs, Inc., 1 U.S. P. Q 2d 1081 (Fed. Cir. 1985). As detailed below, none of the cited reference describe or enable the presently claimed

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subject matter. Accordingly, Claims 1, 2, 4, and 5 can not be anticipated by Penland.

**Claim Rejections - 35 USC § 103**

The Examiner states that Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penland in view of Burlant. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Penland in view of Chen. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Penland in view of Burlant and further in view of Wu.

It is well established that the Examiner has the initial burden under §103 to establish a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1486, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). It is the Examiner's responsibility to show that some objective teaching or suggestion in the applied prior art, or knowledge generally available in the art would have led on of ordinary skill in the art to arrive at the claimed invention. In the present case, the Examiner has failed to provide any objective teaching that would lead one of skill in the art to arrive at the claimed invention. Accordingly, the cited references alone or in combination thereof can not render the claimed invention obviousness.

**INFORMATION DISCLOSURE STATEMENT**

In accordance with their duty of disclosure under 37 C.F.R. §1.56, Applicants would like to direct the Examiner's attention to the following reference which is listed on Form PTO-1449 (**Exhibit A**) and is attached hereto as **Exhibit B**.

If a telephone interview would be of assistance in advancing prosecution of the subject application, Applicants'

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undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with the filing of this Communication. However, if any additional fee is required, authorization is given to charge the amount of any such fee to Deposit Account No. 50-1891.

Respectfully submitted,

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# **Exhibit A**



# **Exhibit B**

[19]中华人民共和国国家知识产权局

[51] Int. Cl<sup>7</sup>

B27M 3/06

## [12] 实用新型专利说明书

[21] ZL 专利号 00254152.1

[45] 授权公告日 2001 年 7 月 11 日

[11] 授权公告号 CN 2438558Y

[22] 申请日 2000.10.8 [24] 颁证日 2001.6.16

[73] 专利权人 杭州大庄地板有限公司

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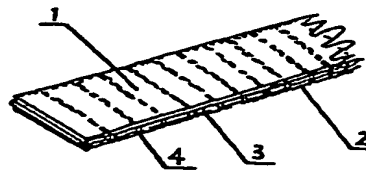
[21] 申请号 00254152.1

权利要求书 1 页 说明书 2 页 附图页数 1 页

[54] 实用新型名称 两层交错复合地板

[57] 摘要

一种两层交错复合地板,由面板和底板构成,其面板通过胶合层与底板粘接,并且面板和底板之间按板材纤维方向呈 45°—90°角交错;所述的底板为 片条结构,底板各片条之间呈有间隙平行排列,所述的复合地板四周作榫槽 的企口地板;由于本实用新型采用了上述结构,具有工艺简单,提高原材料利用率;克服了传统纯实木地板和竹地板取材困难,稳定性差,而多层复合地板 浪费材料,工艺复杂等缺点。



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## 权 利 要 求 书

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1. 一种两层交错复合地板，由面板（1）和底板（2）构成，其特征在于：面板（1）通过胶合层（3）与底板（2）粘接，所述的面板（1）和底板（2）之间按板材纤维方向呈  $45^{\circ}$ — $90^{\circ}$  角交错。

2. 根据权利要求 1 所述的两层交错复合地板，其特征在于：所述的底板（2）为片条结构，底板各片条之间呈有间隙（4）平行排列，所述的复合地板四周作榫槽（5）的企口地板。

3. 根据权利要求 1 所述的两层交错复合地板，其特征在于：所述的底板（2）各片条之间也可无间隙平行排列，所述的复合地板四周可不作榫槽的平口地板。



# 说明书

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## 两层交错复合地板

本实用新型涉及一种地板，尤其是一种两层胶合的交错复合地板。

现有的一般天然材料地板是整块实木或整块实竹的单层或三层乃至更多层复合而成的地板，缺点在于浪费材料，选材困难，出材率低或加工工艺复杂，耗费胶粘剂多，地板整体形状不稳定，容易变形等。

本实用新型的目的是克服上述现有技术的缺点，从而提供一种两层交错的复合地板。

本实用新型的目的是这样实现的：它由面板通过胶合层与底板粘接成复合地板，所述的面板和底板之间按板材纤维方向呈 $45^{\circ}$ — $90^{\circ}$ 角交错，所述的底板为片条结构，底板各片条之间呈有间隙平行排列，所述的复合地板为四周作榫槽的企口地板；所述的底板各片条之间也可无间隙平行排列，所述的复合地板可为四周不作榫槽的平口地板。

由于本实用新型采用了上述结构，具有以下优点：

(1) 工艺简单，提高原材料利用率；传统纯实木地板和竹地板取材困难，稳定性差，而多层复合地板浪费材料，工艺复杂，两层交错复合地板可显著提高原材料利用率并简化了工艺；

(2) 减少了地板宽度方向的缩胀，两层交错复合地板利用纤维纵向很小的缩胀率，有效地牵制地板面板宽度方向受气候变化所产生的缩胀变化；

(3) 减少了地板卷曲变形现象的发生，一般的实木地板或全竹地板在存放、使用过程中，因地板正面与背面所接受的湿度和温度影响差异，及

易出现卷曲，而双层交错结构可以有效地克服这种变化；

(4) 增加了榫槽的强度，减少使用时的破损，一般的传统地板侧面榫槽因运输和安装钉固出现破裂，并影响安装的紧固性；两层交错复合地板在加工企口时，榫槽的纵向纤维在受外力冲撞和钉固时，都不易出现折损，因而很好地克服了原有地板企口的牢固性和安装强度上的缺陷。

下面结合附图和实施例对本实用新型做进一步说明。

图 1 是本实用新型的结构示意图；

图 2 是本实用新型的正面视图；

图 3 是本实用新型的侧面视图。

图中 1.面板；2.底板；3.胶合层；4.间隙；5.榫槽。

图中面板 1 用木材或竹材顺着纤维方向加工成片材，也可用多个小片材拼合成的单层板做面板 1，而底板 2 则用同样加工方法加工成小片条，然后面板 1 和底板 2 之间通过胶合层 3 按板材纤维方向呈  $45^{\circ}$ — $90^{\circ}$  角交错粘接成复合地板，再作六面刨削在粘接时底板各片条之间呈有间隙平行排列，由于木材或竹材在纵向的干缩率通常为 0—04%，而横向干缩率为 15%—9% 之间，本实用新型的结构使地板在受到气候变化所产生的涨缩受到有效的牵制，同时还有效地减少了在宽度方向变形现象的发生；在根据使用地区气候环境变化的大小不同，增加底板 2 片条的间隙，从而使地板的尺寸稳定性和平整性提高，克服了目前地板易变形的现象；而在地板四周作成有榫槽的企口地板时，底层 2 的纵向纤维也有效地提高了榫槽的强度，大大减少安装时的破裂；用此种方法还可制造无榫槽的平口地板，所用板材可用实木复合、实竹复合或竹木复合。

# 说明书附图

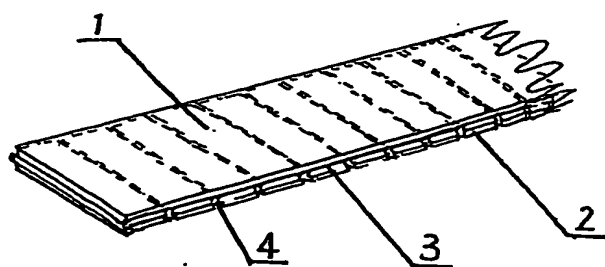


图 1

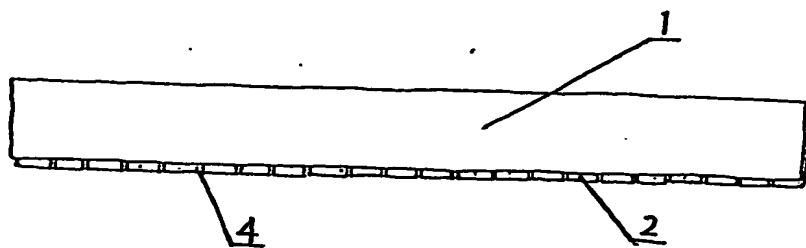


图 2

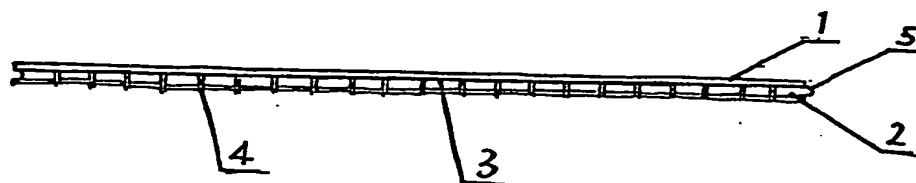


图 3